

**Overview:
DoD-related Data Sources,
the Defense Medical
Surveillance System,
and the DoD Serum Repository**

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John F. Brundage, MD, MPH
Army Medical Surveillance
Activity

USACHPPM



DoD data relevant to populations / exposures

Applicants for military service

- > home of record; demographic, physical, medical; “aptitude” scores; serum

Individuals in military service

- > monthly census (all Services, active and selected Reserves)
- > demographic (e.g., marital status, education)

Gains and losses

- > dates of entry to service
- > dates of death/discharge/retirement

Military status / experiences

- > military rank, occupation(s)
- > dates, locations, units of “permanent” assignments
- > participation in “major joint operations”

Pre- and post-deployment health assessments

- > self-administered
 - > includes general medical/psych screening questions

Immunizations



DoD data that document medical events

Hospitalizations

- > up to 8 discharge diagnoses (ICD-9-CM)
 - “fixed” military hospitals worldwide
 - selected deployed hospitals (e.g., Bosnia-Herzegovina)
 - “outsourced” care
- > dates of admission and discharge; procedures; disposition

Ambulatory visits

- > up to 4 diagnoses (ICD-9-CM)
 - “fixed” military medical clinics
 - “outsourced” care
- > disposition (e.g., return to duty, limited duty, quarters); procedures

Deaths

- > deaths while on active duty (with general causes)
 - > detailed information through mortality registry (AFIP)

Reportable medical events

- > 70 conditions (most infectious, none psychiatric)



Public Health Surveillance for the DoD

Defense Medical Surveillance System (DMSS)

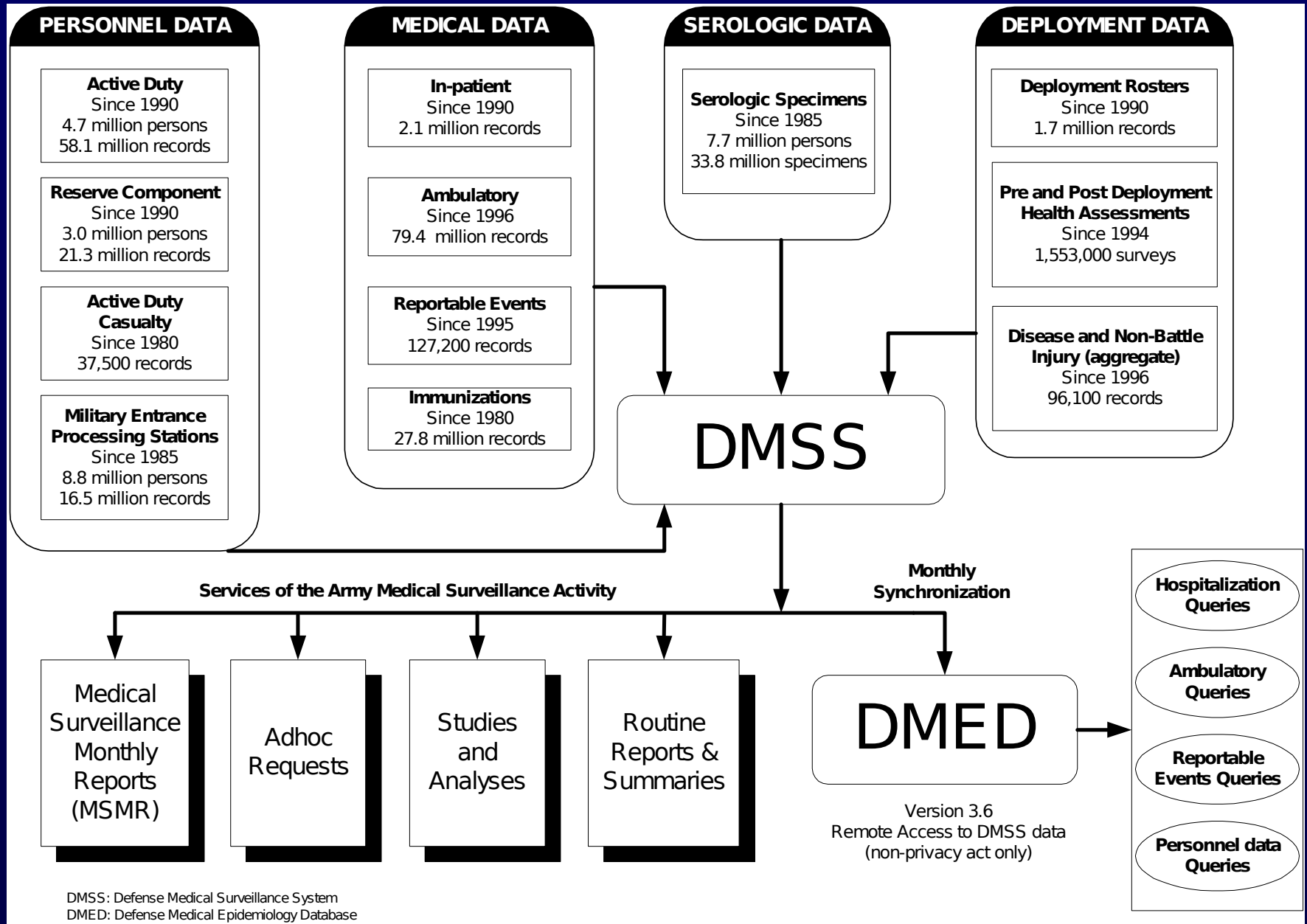
Central resource for comprehensive public health surveillance

Integrated data from multiple sources

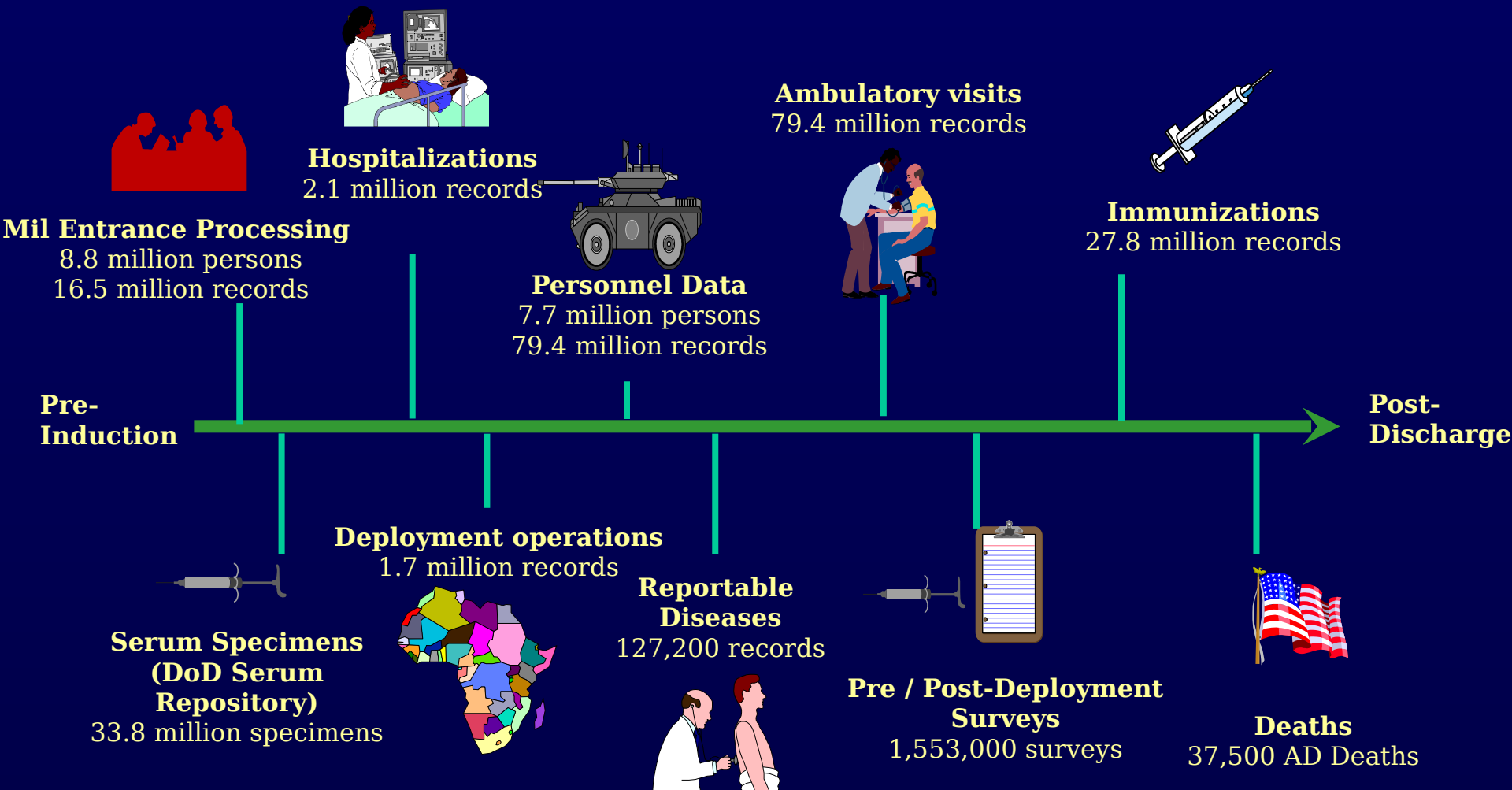
Operated by Army Medical Surveillance Activity (AMSA)

Longitudinal surveillance →
“health, fitness, operational readiness, and exposures”
over entire careers of U.S. service members.

DMSS Structure and Functional Relationships



Longitudinal: data are integrated in a database that maintains person, place, time, and event relationships



All counts current as of January 2004



Components of the Services

A large green circle with a black border is centered on the slide. Inside the circle, the words 'Active components' are written in a bold, black, serif font, arranged in three lines: 'Active', 'components', and 'ts'.

**Active
components
ts**

Full-time military service

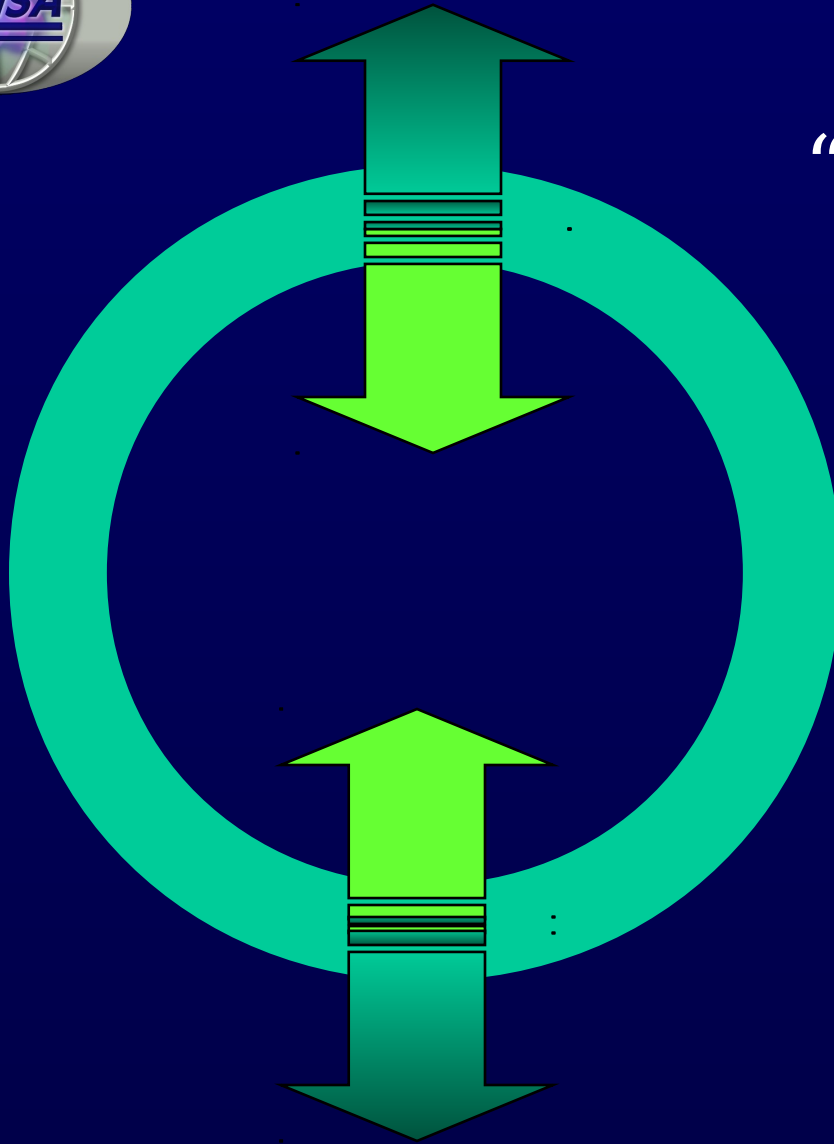
Abundant “exposure” and medical event data

Data deficiencies:

- > medical events during operations/deployments
- > “exposures” during operations/deployments (e.g., mal



Components of the Services



“Selected Reserve”

Reserve and National Guard units
(plus individual others)

“Part time” military service (usually 1 year)

May be mobilized/deployed (> 90 days)

Data deficiencies –

- > dates of active military duty
- > “exposures” outside of military service
- > med events outside of military service
- > “exposures” / med events of active military deployments



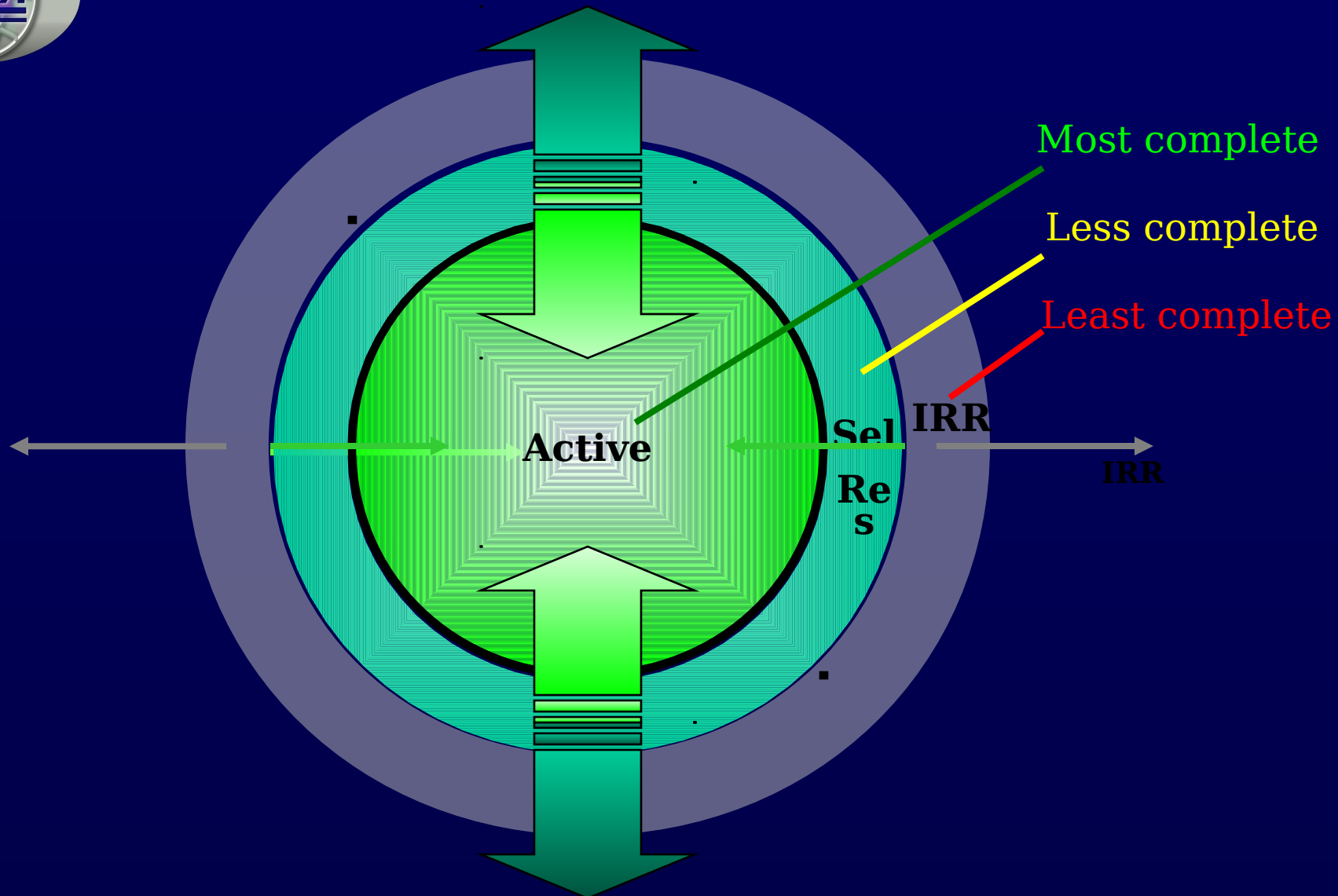
Components of the Services

"Individual Ready Reservists"

- Have military training/prior service
- No ongoing training or service
- Available for national emergency
- Little data (other than from prior service)



Components of the Services



~ 30% of U.S. Army soldiers in OEF/OIF in Reserve component



DoD Serum Repository (DoDSR)

Serial serum specimens from >7.7
million individuals

Stored in precisely documented
locations in walk-in freezers

Linked to demographic, military, and
medical information via the DMSS

Unique potential for population based
sero-epidemiologic studies



DoD Serum Repository

Inventory

Remaining serum from routine, periodic HIV testing

Army, Navy, civilian applicants (since October 1985)
Air Force (since 1996)

Deployment-related specimens (including OEF/OIF)

Current inventory:

>32 million specimens

Increases by ~2.3 million specimens/ year





Selected Data Tables Integrated within the Defense Medical Surveillance System (DMSS)*

Table	Source	Frequency	Rows	Services	Period of time
Person ¹	DMDC	Monthly	7.6M	All	1990 -- 2003
Demog ¹	DMDC	Monthly	78M	All	1990 -- 2003
MEPS	MEPCOM	Monthly	8.7M	All	1985 -- 2003
Deploy_PG ²	DMDC	Single	697K	All	1990 -- 1991
Deploy ³	DMDC	Monthly	797K	All	1993 -- 2003
Inpatient ⁴	EI / DS	Monthly	2.1M	All	1990 -- 2003
Deploy_Forms ⁴	AMSA	Daily	1.2M	All	1994 -- 2003
Outpatient ⁴	EI / DS	Monthly	74.2M	All	1996 -- 2003
HIV_Tests ⁵	Testing Labs	Weekly	31M	All	1985 -- 2003
Immunizations	DEERS	Monthly	23.8M	All	1980 -- 2003
DoDSR	DoDSR	Weekly	32.4M	All	1985 -- 2003
Casualty ⁶	DIOR	Quarterly	18K	All	1985 -- 2003
HRA	CHPPM	Quarterly	575K	Army	1990 -- 2003
Reportable Events ⁷	MTFs	Daily	121K	All	1994 -- 2003

1. Person/demog: information related to individuals who serve(d) in active and Reserve components
2. Participants in Persian Gulf War I
3. Participants in selected major joint/multinational operations since Persian Gulf War I
4. Health assessments completed before and after major deployments
5. Mandatory, routine HIV screening.
6. Deaths while on active duty.
7. Per Tri-service consensus list of reportable medical events.
8. Medical encounters for active component and activated Guard and Reserve.

Oct-03



Other potentially useful sources of data

Databases/registries

Pharmacy

Mortality

Medical air evacuations (from
OEF/OIF)

Ad hoc

Medical records (e.g., care provider
notes)

Surveys / interviews